

Page 4, Background of the Invention, Cont'd., delete last Para. and replace with:  
One such micro-wave device is described as a density and moisture content measuring invention. (U.S. Patents 5,801,537, 5,933,015, and 6,215,317 – “Method and apparatus for measuring in-place soil density and moisture content”, all to Siddiqui, et al.). The specifications describe how the volumetric moisture content can be estimated from measurement of the dielectric constant of a test sample of soil. It also infers that gravimetric density can be estimated from the same measurement of dielectric constant, by reference to another laboratory measurement. It is questionable that specific gravity can be measured using dielectric constant only, since in practice, two samples of soil can be prepared that have exactly the same dielectric constant, but have different gravimetric densities and gravimetric moisture contents.

Laboratory testing during the invention of EDG showed that a much higher correlation to the unit weight of water in a soil sample can be achieved using the **quotient of measured volume capacitance and measured volume resistance**, which is a new and novel feature of the EDG invention.

- Page 4, Summary of the Invention, Para.1, line 1, after “portable” add: “non-nuclear”.
- Page 4, Summary of the Invention, Para.1, line 2, delete: “moisture content”.
- Page 4, Summary of the Invention, Para.1, line 2, add: “construction materials and/or” after “dry density in” and before “soils”.
- Page 5, Summary of the Invention, Cont'd., in the Para. starting with “The Electrical –”, line 3, delete: “moisture content”.
- Page 6, Summary of the Invention, Cont'd., line 1, add: “geotechnical” before “sand cone” and put “sand cone” in parenthesis.
- Page 6, Summary of the Invention, Cont'd., in the Para. starting with “After calibration-”, line 4, delete: “estimated”.
- Page 6, Summary of the Invention, Cont'd., in the Para. starting with “After calibration-”, line 5, delete: “and soil moisture content”.
- Page 6, Summary of the Invention, Cont'd., in the Para. starting with “The EDG uses-”, line 5, delete: “correct them to provide representations of” and replace with: “computes”.
- Page 6, Summary of the Invention, Cont'd., in the Para. starting with “The EDG uses-”, line 9, delete: functions” and replace with: “resources”.
- Page 6, Summary of the Invention, Cont'd., in the last Para., line 1, add as the first words: “From the electrical soil measurements, ”.
- Page 6, Summary of the Invention, Cont'd., in the Para. that now begins with “From the electrical-”, line 4, delete: “an estimate of”.
- Page 7, Summary of the invention, Cont'd., line 1, delete: “an estimate of”.
- Page 7, Summary of the Invention, Cont'd., line 2, delete: “estimated”, and replace with: “measured”.
- Page 7, Summary of the Invention, Cont'd., line 2, delete: “estimates of”.
- Page 7, Summary of the Invention, Cont'd., line 3, delete: “and moisture content”.